

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/CA2004/001005

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07K16/12 C07K16/02 A61K39/40 A61K39/42 A61K35/74

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, EMBASE, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No.     |
|------------|---|---------------------------|
| X          | FULTON R M ET AL: "Prevention of Salmonella enteritidis infection in commercial ducklings by oral chicken egg-derived antibody alone or in combination with probiotics"<br>POULTRY SCIENCE,<br>vol. 81, no. 1, January 2002 (2002-01),<br>pages 34-40, XP008038267<br>ISSN: 0032-5791 | 1-4,<br>7-11,<br>14-17,21 |
| Y          | the whole document<br>-----<br>-/--   | 5,12,19                   |

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- \*&\* document member of the same patent family

Date of the actual completion of the international search

12 November 2004

Date of mailing of the international search report

02.03.2005

Name and mailing address of the ISA

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No.            |
|------------|---|----------------------------------|
| X          | TELLEZ G ET AL: "EVALUATION OF AVIAN-SPECIFIC PROBIOTIC AND SALMONELLA HEIDELBERG-SPECIFIC ANTIBODIES ON CECAL COLONIZATION AND ORGAN INVASION OF SALMONELLA ENTERITIDIS IN BROILERS" JOURNAL OF FOOD PROTECTION, DES MOINES, IO, US, vol. 64, no. 3, 2001, pages 287-291, XP008025680<br>ISSN: 0362-028X | 1-4,<br>7-11,<br>14-17,21        |
| Y          | the whole document  | 5,12,19                          |
| X          | WO 94/21284 A (PHARMA PACIFIC PTY LTD ; CHANDLER DAVID SPENCER (AU); REED BENJAMIN JO) 29 September 1994 (1994-09-29)   | 1-4,<br>6-11,<br>13-18,<br>20,21 |
| Y          | the whole document  | 5,12,19                          |
| X          | WO 97/20577 A (PHARMA PACIFIC PTY LTD ; CHANDLER DAVID SPENCER (AU); REED BENJAMIN JO) 12 June 1997 (1997-06-12)  | 1-4,<br>7-11,<br>14-18,21        |
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| X          | WO 97/37636 A (HAKALEHTO ELIAS ; KURONEN ILPO (FI)) 16 October 1997 (1997-10-16)  | 1,2,4,8,<br>9,11,15,<br>16,18    |
| Y          | page 3, line 20 - line 24<br>page 5, line 19 - line 22<br>page 5, line 35 - page 6, line 3  | 5,12,19                          |
| Y          | WO 98/54982 A (GANEDEN BIOTECH INC ; FARMER SEAN (US); MIKHAIL ROBERT J (US)) 10 December 1998 (1998-12-10)<br>the whole document   | 1,2,5,8,<br>9,12,15,<br>16,19    |
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| Y          | WO 03/047353 A (MICROPURE TECHNOLOGIES LLC) 12 June 2003 (2003-06-12)<br>the whole document   | 1,2,8,9,<br>15,16                |
| Y          | WO 97/06811 A (EWOS AB ; BOWMAN DAVID SCOTT (SE); KJELLEBERG STAFFAN (AU); CONWAY PAT) 27 February 1997 (1997-02-27)<br>the whole document  | 1,2,8,9,<br>15,16                |
|            | -/--  |                                  |

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International Application No  
PCT/CA2004/001005

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No.     |
|------------|--|---------------------------|
| Y          | <p>ROBERTSON P A W ET AL: "Use of Carnobacterium sp. as a probiotic for Atlantic salmon (Salmo salar L.) and rainbow trout (Oncorhynchus mykiss, Walbaum)"</p> <p>AQUACULTURE,<br/>vol. 185, no. 3-4,<br/>25 May 2000 (2000-05-25), pages 235-243,<br/>XP002304580<br/>ISSN: 0044-8486<br/>the whole document</p> <p style="text-align: center;">-----</p> | <p>1,2,8,9,<br/>15,16</p> |

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/CA2004/001005

| Patent document<br>cited in search report |   | Publication<br>date | Patent family<br>member(s) | Publication<br>date |
|---|---|---------------------|----------------------------|---------------------|
| WO 9421284                                | A | 29-09-1994          | AU 673589 B2               | 14-11-1996          |
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|   |   |                     | JP 8509965 T               | 22-10-1996          |
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| WO 9706811                                | A | 27-02-1997          | AU 6706096 A               | 12-03-1997          |
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|   |   |                     | GB 2319728 A               | 03-06-1998          |
|   |   |                     | JP 11511966 T              | 19-10-1999          |
|   |   |                     | NO 980550 A                | 02-04-1998          |

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## Box II Observations where certain claims were found unsearchable (Continuation of Item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:  
**Although claims 15-21 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.**
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of Item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:  
**1,2,8,9,15,16(all partially);4-7,11-14,18-21(all completely)**

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1,2,8,9,15,16 (all partially); 4-7,11-14,18-21 (all completely)

A pharmaceutical composition comprising polyclonal antibodies directed against at least one enteric pathogen and a probiotic, wherein in particular the enteric pathogen is aeromonas hydrophilia; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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2. claims: 1,2,8,9,15,16 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least Bacillus cereus and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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3. claims: 1,2,8,9,15,16 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least Vibrio parahemolyticus, Vibrio cholerae 01, Vibrio cholerae non-01 or Vibrio vulnificus, and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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4. claims: 1,2,8,9,15,16 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least Salmonella enterica and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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5. claims: 1,2,8,9,15,16 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least Salmonella typhi and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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6. claims: 1,2,8,9,15,16 (all partially)

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

A pharmaceutical composition comprising polyclonal antibodies directed against at least Salmonella paratyphi and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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## 7. claims: 1,2,8,9,15,16 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least Salmonella enteritidis and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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## 8. claims: 1,2,8,9,15,16 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least Salmonella choleraesuis and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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## 9. claims: 1,2,8,9,15,16 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least Salmonella typhimurium and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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## 10. claims: 1,2,8,9,15,16 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least Clostridium difficile and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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## 11. claims: 1,2,8,9,15,16 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least Clostridium botulinum and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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## 12. claims: 1,2,8,9,15,16 (all partially)

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

A pharmaceutical composition comprising polyclonal antibodies directed against at least *Clostridium perfringens* and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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## 13. claims: 1,2,8,9,15,16 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least *Staphylococcus aureus* and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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## 14. claims: 1,2,8,9,15,16 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least *E.coli* and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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## 15. claims: 1,2,8,9,15,16 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least *Campylobacter jejuni*, *Campylobacter coli*, *Campylobacter lari* or *Campylobacter fetus*, and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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## 16. claims: 1,2,8,9,15,16 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least *Yersinia enterocolitica*, *Yersinia pestis* or *Yersinia pseudotuberculosis*, and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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## 17. claims: 1,2,8,9,15,16 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least *Plesiomonas shigelloides* and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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## 18. claims: 1,2,8,9,15,16 (all partially)



## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

A pharmaceutical composition comprising polyclonal antibodies directed against at least *Listeria monocytogenes* and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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## 19. claims: 1,2,8,9,15,16 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least enteric viruses and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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## 20. claims: 1,2,8,9,15,16 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least rotavirus and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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## 21. claims: 1,2,8,9,15,16 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least Norwalk-like viruses and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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## 22. claims: 1,2,8,9,15,16 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least enteric adenoviruses and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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## 23. claims: 1,2,8,9,15,16 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least coronavirus and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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## 24. claims: 1,2,8,9,15,16 (all partially)

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

A pharmaceutical composition comprising polyclonal antibodies directed against at least enteric parasites and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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25. claims: 1,2,8,9,15,16 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least fungi and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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26. claims: 1,2,8,9,15,16 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least *Cryptosporidium* and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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27. claims: 1,2,8,9,15,16 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least *Cyclospora* and a probiotic; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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28. claims: 1,3,8,10,15,17 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least one enteric pathogen and a probiotic wherein the probiotic is a *Lactobacilli* species ; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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29. claims: 1,3,8,10,15,17 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least one enteric pathogen and a probiotic wherein the probiotic is a *Bifidobacteria* species ; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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30. claims: 1,3,8,10,15,17 (all partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

A pharmaceutical composition comprising polyclonal antibodies directed against at least one enteric pathogen and a probiotic wherein the probiotic is a *Saccharomyces* species ; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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31. claims: 1,3,8,10,15,17 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least one enteric pathogen and a probiotic wherein the probiotic is a *Enterococcus* species ; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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32. claims: 1,3,8,10,15,17 (all partially)

A pharmaceutical composition comprising polyclonal antibodies directed against at least one enteric pathogen and a probiotic wherein the probiotic is a *Eubacteria*; method for preparing such composition; method of treating or preventing a gastrointestinal illness using such composition.

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